

LISTING OF CLAIMS

1. (Currently Amended): A method for creating a fluid flow path, comprising:
providing a first containment region fluidly connected to a second containment region, the first containment region having an inlet that receives a fluid;
injecting pressurized gas into the second containment region ~~in order to create a density differential in the fluid at a rate to cause the fluid in the second containment region to rise higher than the inlet;~~
removing gas from the second containment region; and
providing a third containment region fluidly connected to the second containment region, wherein the third containment region includes an outlet.
2. (Original): The method of claim 1, wherein the inlet is at a first elevation and the outlet is at a second elevation, and wherein the second elevation is lower than the first elevation.
3. (Original): The method of claim 2, wherein at least some of the fluid enters the first containment region through the inlet, travels down in the first containment region, travels up in the second containment region, travels down in the third containment region and exits at the outlet.
4. (Original): The method of claim 3, wherein the at least some of the fluid that exits the outlet contains some of the gas.
5. (Original): The method of claim 1, wherein the containment regions are radially located with respect to each other.

6. (Original): A method for removing contaminants from groundwater, comprising:
providing a borehole extending from the ground surface into the saturated zone;
providing a casing within the borehole, the casing having a lower fluid-permeable section below the water table and an upper fluid-permeable section at the water table;
providing a groundwater remediation system that includes three separate chambers, a first chamber including an inlet and fluidly connected to a second chamber, a second chamber including a gas supply line for injecting gas into the chamber wherein the second chamber is fluidly connected to a third chamber, wherein treated water exits an outlet in the third chamber at a distal end of the remediation system from the inlet.
7. (Original): The method of claim 6, wherein the outlet is lower in elevation than the inlet.
8. (Original): The method of claim 7, wherein at least some of the gas exits with the treated water.
9. (Original): The method of claim 7, further comprising providing an impermeable layer between the casing and the borehole to prevent convection currents from short-circuiting outside the casing within the borehole.
10. (Original): An apparatus for *in situ* decontamination of a contaminated groundwater, comprising:
a collector conduit, the collector conduit having a proximal and distal end, the proximal end having at least one opening to allow fluid to flow therein,
a gas-lift conduit in fluid communication with the collector conduit,

a pump for pumping a gas into the gas-lift conduit, and

a return conduit in fluid communication with the gas-lift conduit, the return conduit further including an outlet port at an end distal to the proximal end of the collector conduit.

11. (Original): The apparatus of claim 10, wherein the outlet port is lower in elevation than the at least one opening of the collector conduit.
12. (Original): The apparatus of claim 11, wherein at least some of the fluid exits with at least some of the gas through the outlet port.
13. (Original): The apparatus of claim 10, wherein the at least one opening encompasses anticipated high, low, and drawdown levels of the groundwater.

14. (Currently Amended): A system for decontamination contaminated groundwater *in situ*, comprising:

a borehole having a bottom elevation below a water level of the contaminated groundwater;

a first housing positioned within the borehole, the first housing having an inlet, wherein the inlet is positioned below the water level;

a second housing positioned within the borehole in fluid communication with the first housing;

a third housing positioned within the borehole and in fluid communication with the second housing

a pump-diffuser for pumping-dispersing a gas into the second housing such that a density differential in the water of the second housing creates a convection flow within the decontamination system, wherein the convection flow causes fluid within the first housing to be drawn downwards.

15. (Original): The system of claim 14, wherein the third housing includes an outlet and wherein the outlet is lower in elevation than the inlet.

16. (Original): The system of claim 15, wherein at least some of the groundwater that enters the inlet exits combined with at least some of the gas through the outlet.

17. (Original): A system for creating a fluid flow path, comprising:
an apparatus comprising:
a collector conduit having a first and a second end, the first end having at least one opening to allow fluid to flow into the collector conduit,
a gas-lift conduit fluidly connected to the collector conduit, and
a return conduit fluidly connected with the gas-lift conduit, the return conduit including at least one outlet port at an end distal to the first end of the collector conduit, wherein the at least one opening is higher in elevation than the at least one outlet port; and
a pump configured to pump a gas into the gas-lift conduit.
18. (Original): The system of claim 17, wherein the apparatus is used as a pneumatic pump.
19. (Original): The system of claim 17, wherein the apparatus provides oxygenated water to a hypolimnetic layer of a body of water.
20. (Original): The system of claim 17, wherein the at least one opening on the first end comprises a surface skimmer of an aquarium or pool.
21. (Original): The system of claim 20, wherein the return conduit is a semi-rigid tube.
22. (Original): The system of claim 17, wherein the apparatus is configured to treat wastewater.

23. (Original): The system of claim 17, wherein the apparatus is configured to move fluids from a higher elevation of a reaction chamber to a lower elevation of the reaction chamber.

24. (Original): The system of claim 17, wherein the system comprises a food processing system and wherein apparatus is configured to introduce or strip out a gas in the food processing system.

25. (Original): The system of claim 17, wherein the apparatus forms an emulsion during operation.

26. (Original): The system of claim 17, wherein the pump produces the gas as a result of fermentation.

27. (Original): The system of claim 17, wherein the gas strips another gas from the fluid that flows through the apparatus.

28. (Original): The system of claim 27, wherein the fluid comprises blood, the gas comprises nitrogen, and the other gas comprises oxygen.

29. (Original): The system of claim 17, wherein the system further comprises a water storage tank and wherein return conduit is configured to provide the fluid to at least one location within the water storage tank.

30. (Original): The system of claim 17, wherein the gas provides visible bubbles, at least some of the bubbles flowing through the gas-lift conduit and at least some of the bubbles flowing through the return conduit.

31. (Original): The system of claim 30, wherein the fluid changes colors after coming into contact with the gas.

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